

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

IN THE CLAIMS:

Please amend claims 1, 9 and 12-14 as indicated in the
Listing of Claims.

LISTING OF CLAIMS

1 1. (Currently amended) A diverter switch for branching off
2 bulk-material flows, having a rotary plug (1) disposed in a
3 stationary housing (2) having three connecting openings (4, 5, 6)
4 said rotary plug and housing providing a first position
5 connecting a first connecting-opening pair (4, 5) a second
6 position, connecting a second connecting-opening pair (4, 6), and
7 a gap (10) disposed between said rotary plug (1) and said housing
8 wherein the improvement comprises a rotary plug (1) and/or
9 housing (2) having at least one labyrinth seal arrangement (7),
10 having at least one labyrinth seal groove (8, 9), wherein the
11 labyrinth seal groove (8) of the rotary plug (1) is arranged

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

12 largely continuously around at least one opening of a through-
13 channel (3) and is axially displaced from an end of said through-
14 channel, and/or ~~in that~~ the labyrinth seal groove (9) of the
15 housing (2) is arranged largely continuously around at least one
16 of the connecting openings (4, 5, 6) and is axially or radially
17 displaced from an end of a connecting opening of said housing.

1 2. (Original) The diverter switch according to Claim 1,
2 further comprising a plurality of labyrinth seal grooves (8, 9)
3 arranged next to one another.

1 3. (Original) The diverter switch according to claim 1 or 2
2 further comprising at least one feed opening (12) for a feed
3 channel for feeding a gap fluid into the gap (10) between rotary
4 plug (1) and housing (2).

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 4. (Original) The diverter switch according to claim 1 or 2
2 further comprising a feed opening (12) in the labyrinth seal
3 groove (8, 9).

1 5. (Original) The diverter switch according to claim 1 or
2 further comprising means for insuring the pressure of the gap
3 fluid is greater than a pressure of the conveying fluid.

1 6. (Original) The diverter switch according to claim 1 or
2 wherein the composition of the gap fluid is substantially the
3 same as the composition of the conveying fluid.

1 7. (Original) The diverter switch according to claim 1 or
2 wherein the maximum width (W) of the gap (10) is smaller than
3 or equal to five-tenths of a millimetre ($W \leq 5/10$ mm).

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 8. (Original) The diverter switch of claim 1 or 2 wherein
2 the maximum width (W) of the gap 10 is smaller than or equal to
3 three-tenths of a millimetre ($W \leq 3/10$ mm).

1 9. (Currently amended) A fluid diverter device
2 comprising:

3 (a) a housing having a plurality of through channels and a
4 seat for a rotatable plug;

5 (b) a rotatable plug disposed in said seat selectively
6 rotatably interconnecting at least one of said plurality of
7 through channels;

8 (c) a labyrinth seal having ~~at least one seal groove a~~
9 plurality of sealing grooves displaced axially or radially from
10 an end of one of said plurality of through channels and disposed
11 between said housing and said rotatable plug; and

12 (d) a fluid gap seal disposed intermediate said
13 housing and said rotatable plug in communication with said ~~at~~

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

14 ~~least one seal groove~~ plurality of sealing grooves of said
15 labyrinth seal.

1 10. (Original) The fluid diverter of claim 9 further
2 comprising at least one feed channel in communication with said
3 fluid gap seal.

1 11. (Original) The fluid diverter of claim 10 further
2 comprising means for increasing the pressure of the gap fluid to
3 a pressure greater than the conveying fluid.

1 12. (Currently amended) The fluid diverter of claim 9
2 wherein said ~~at least one groove is a~~ plurality of grooves are
3 disposed on said rotatable plug and are disposed on said
4 ~~plurality of channels~~ housing.

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 13. (Currently amended) The fluid diverter of claim 12
2 wherein said plurality of grooves disposed on said rotatable plug
3 and said plurality of grooves disposed on said ~~plurality of~~
4 ~~channels~~ housing are concentrically staggered.

1 14. (Currently amended) A fluid device for diverting
2 fluids comprising:

3 (a) a housing having a plurality of through channels and a
4 seat for a rotatable plug;

5 (b) a rotatable plug disposed in said seat selectively
6 rotatably interconnecting at least two of said plurality of
7 through channels;

8 (c) a labyrinth seal having a plurality of grooves disposed
9 in said rotatable plug or around at least one opening of said

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

10 plurality of through channels said plurality of grooves being
11 axially or radially displaced from at least one end of said
12 plurality of through channels;

13 (d) a fluid gap seal disposed in said seat for said
14 rotatable plug or in said rotatable plug; and

15 (e) a fluid feed channel communicating with said fluid gap
16 seal.